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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,330	09/04/2003	Stephen W. Foss	6080 FOS P43 US	6113
26486	7590	11/16/2005	EXAMINER	
PERKINS, SMITH & COHEN LLP ONE BEACON STREET 30TH FLOOR BOSTON, MA 02108			SALVATORE, LYNDIA	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/655,330

Applicant(s)

FOSS, STEPHEN W.

Examiner

Lynda M. Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 85-101 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 85-101 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment and accompanying remarks filed 8/15/05 have been fully considered and entered. Claims 85-86 and 93 have been amended as requested.

Applicant's amendment to claim 93 is found sufficient to overcome the claim objections and 112 2<sup>nd</sup> paragraph rejection set forth in sections 1 and 9 of the last Office Action. As such, these objections and rejection are hereby withdrawn. Applicant's arguments however, with respect to the prior art rejections set forth in sections 11-17, are not found persuasive of patentability for reasons set forth herein below.

### ***Terminal Disclaimer***

2. The terminal disclaimer filed on 8/15/05 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/765,255, 10/762,920, 10/765,414, 10/768,840 and 10/406,720 has been reviewed and is accepted. The terminal disclaimer has been recorded. As such, the non-statutory double patenting rejections set forth in sections 2-7 of the last Office Action, are withdrawn.

### ***Claim Rejections - 35 USC § 102***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 85,86,88,89,92 and 95-101 stand rejected under 35 U.S.C. 102(b) as being anticipated by Ando et al., US 5,064,599 for reasons set forth in section 11 of the last Office Action.

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Applicant amended claim 1 to recite a “zeolite” and argues that the prior art of Ando et al., does not the limitation of the “the thickness of the sheath in microns being approximately two times the nominal particle size in microns of the additive” Applicant argues that the geometric relationship between the antimicrobial particle size and the thickness of the sheath is responsible for the desired antimicrobial effect while minimizing the quantity of particles needed. Applicant argues that Ando et al., does not teach or suggest such a dimensional relationship. In addition, Applicant argues that the spinning process of Ando et al., does not guarantee a uniform sheath thickness or particular relative geometry among the core, sheath and particles. In contrast, Applicant’s fiber forming process provides the desired relative geometry. These arguments are not found persuasive.

With regard to Applicant’s newly added claim limitation, it is noted that Ando et al., does specifically teach a zeolite particle (abstract). With regard to Applicant’s argument regarding the geometric relationship between the particle size and sheath, the Examiner maintains that since there are no limitations directed to the thickness of the sheath, core and/or particles, the Ando et al., fiber would necessarily encompass the limitation of providing a sheath, which is twice as thick as the particle size. Recall, Ando et al., teach employing fine particles. Specifically, Ando et al., teach that in the case where the fiber diameter is large, the particle size may be from several microns to several hundred microns. Based on such a disclosure, the Examiner maintains that said thickness of the sheath and particle size limitations would be met if fine particles were employed in fibers having larger diameters. Applicant was invited to evidence otherwise in the last Office Action, however, only responded with the argument that such a disclosure could

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result in a limitless number of possibilities. While this may be true, the Examiner asserts that absent limitations to the relative thicknesses of the sheath, core and particle, Applicant's claimed structure would be included in that number.

With regard to Applicant's arguments directed to having a uniform sheath thickness or particular relative geometry among the core, it is respectfully pointed out that Applicant has not recited such limitations. Thus, it is the position of the Examiner that Applicant's arguments are not commensurate in scope.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 85-89 and 95-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison, US 3,959,556 in view of Ando et al., US 5,064,599 for reasons set forth in section 13 of the last Office Action.

The above arguments made with respect to the prior art of Ando et al., are also applied to this rejection. Applicant argues that the prior art of Morrison does not teach a sheath/core configuration, but rather a blend formation comprising a thermoplastic resin and antimicrobial particles. Applicant further argues that the fabric recited in claim 87 results from heating the blend of non-antimicrobial fibers and antimicrobial fibers whereas the prior art of rely on mechanical crimp like blending of the fibers. These arguments are not found persuasive.

In response to Applicant's arguments that the prior art of Morrison does not teach a sheath/core configuration, it is respectfully pointed out that the prior art of Morrison was only relied upon to teach that it is known in the art to blend non-antimicrobial fibers

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such as cotton, with fibers comprising an antimicrobial additive. The secondary reference was relied upon to evidence the sheath/core limitations recited in claims 85 and 86. With specific regard to the blending and heating limitations recited in claim 87, it is respectfully pointed out that the cotton fibers of Morrison can be blended with the heated synthetic resin comprising the antimicrobial material at any time during the fiber forming process (column 2, 53-Column 3, 17). As such, it is the position of the Examiner that such a disclosure would meet Applicant's limitation of blending and heating to provide a fiber.

7. Claims 85,86,88,92 and 95-101 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hartzog et al., US 6,037,057 in view of Rock et al., US 6,194,332 for reasons set forth in section 14 of the last Office Action.

Applicant argues that the prior art of Hartzog et al., does not teach the claimed ratio of sheath and core percentages. Applicant disagrees with the Examiner's citing of table 3 in Hartzog et al., and argues that the data only shows results of experiments carried out to illustrate that acceptable efficacy is obtained when the sheath is less than 30% of the fiber cross section. As evidence, Applicant points to column 3 of Hartzog et al., where is stated that the sheath comprises less than 30% of the total cross-section. Applicant argues that Hartzog et al., does not provide any information regarding the thickness of the sheath. Applicant further argues that Hartzog et al., teach away from using zeolite particles as instantly claimed. These arguments are not found persuasive.

With regard to Applicant's argument regarding the data illustrated in table 3, it is respectfully pointed out that the experiments and comparative examples exemplified with sheaths up to 50% of the total cross section cannot be ignored though not necessarily

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preferred. Moreover, it appears from the table data that acceptable efficacy rates are observed when the sheath is 50% of the total cross section. The fact remains, Hartzog et al., evidences in several examples that it is known in the art to form sheaths comprising 50% of the total cross section.

With regard to Applicant's arguments regarding the thickness of the sheath, it is respectfully pointed that Applicant has not recited any limitations regarding the thickness of the sheath. Thus, Applicant's arguments are not considered commensurate in scope with the claimed subject matter.

With regard to Applicant's arguments that Hartzog et al., teach away from zeolite particles, it is respectfully pointed out that Hartzog et al., exemplifies using zeolite based particles in comparative examples 3 and 5. Though, Hartzog et al. may not necessarily prefer zeolites, it would be improper to ignore the examples which evidences that the claimed subject matter is known in the art.

8. Claims 90-92 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al., US 5,064,599 in view of Heiman, US 5,290,269 for reasons set forth in section 15 of the last Office Action.

Applicant argues a lack of motivation to combine references on the grounds that the primary reference of Ando et al., does not teach Applicant's structure recited in claims 85-87 from which claims 90-92 depend. This argument is not found persuasive. Since the Examiner maintains the rejection made over Ando et al., as set forth above, it is the position of the Examiner that claims 90-92 are rendered obvious by the combination of Ando et al., in view of Heiman, US 5,290,269.

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9. Claims 93-94 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al., US 5,064,599 as applied to claim 85 or 86 in view of Haile et al., US 6,495,656 as set forth in section 16 of the last Office Action.

Applicant argues a lack of motivation to combine references on the grounds that the primary reference of Ando et al., does not teach Applicant's structure recited in claims 85-87 from which claims 93-94 depend. This argument is not found persuasive. Since the Examiner maintains the rejection made over Ando et al., as set forth above, it is the position of the Examiner that claims 93-94 are rendered obvious by the combination of Ando et al., in view of Haile et al.

10. Claims 93-94 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hartzog et al., US 6,037,057 in view of Rock et al., US 6,194,332 as applied to claim 85 or 86 and further in view of Haile et al., US 6,495,656 as set forth in section 17 of the last Office Action.

Applicant argues a lack of motivation to combine references on the grounds that the combination of Hartzog et al., in view of Rock et al., does not teach Applicant's structure recited in claims 85-87 from which claims 93-94 depend. This argument is not found persuasive. Since the Examiner maintains the rejection made over Hartzog et al., in view of Rock et al., as set forth above, it is the position of the Examiner that claims 93-94 are rendered obvious by the combination Hartzog et al., in view of Rock et al., and further in view of Haile et al.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M. Salvatore whose telephone number is 571-272-1482. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 31, 2005  
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